



Dart Hawkesbury
1270 Aberdeen St. Hawkesbury, ON K6A 1K7 Canada
Tel (613) 632-5200
Fax 613 632-5246

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name		
P0041803	MEC002-VU	4	1	Net 30	M17-4-B0.500X2.000	17-4 SS Bar .500 x 2.00 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGTH OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft				12	12/11/2018	12		S136461	Stock	12/10/2018	\$ 29.25 / ft	0		\$351.00	Metaux Castle		
										Total:	12		12									\$351.00	

Plex 12/10/2018 3:55 PM Dart.Belanger.Natasha



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041803**

Supplier: MEC002-VU
Metaux Castle
P.O. Box 4090 Str A
Toronto
ON
M5W OE9 Canada

PO No: PO041803

PO Date: 11/21/18

Due Date: 12/17/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

E-MAILED
NOV-23-2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		M7075T6S1.500X1.500		7075-T6S Sheet 1.5" Thick Plate X 1.5" Wide : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	-	12/17/18	60 ft	0 ft	60 ft	\$29.40/ft	\$1,764.00
2		M7075T6S1.750X2.250		7075-T6 Sheet 1.750" X 2.250" : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	-	1/23/19	24 ft	0 ft	24 ft	\$34.18/ft	\$820.32



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PURCHASE ORDER **PO041803**

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
3		M17-4-B1.500X2.250		17-4 SS Bar 1.50 X2.250 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGHT OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	-	12/17/18	12 ft	0 ft	12 ft	\$118.78/ft	\$1,425.36
4		M17-4-B0.500X2.000		17-4 SS Bar .500 x 2.00 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGHT OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	-	12/11/18	12 ft	0 ft	12 ft	\$29.25/ft	\$351.00

1264X DEC 10 2018

Grand Total: \$4,360.68



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PURCHASE ORDER
PO041803

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

A handwritten signature in black ink, appearing to be "JL" or similar, located in the right margin of the Order Notes section.

Plex 11/21/18 2:48 PM dart.lavoie.chantal

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 1


Shipment No: 3773662

Ship From: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 06-DEC-18	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOU LIN	BOL No 3773662-2		

Shipment Details

Final Destination Branch - TOR

Order No 5328023	Line No 1	Item No 9058.BO	Description 0.5000.2.0000.FLAT.17CR-4NI.STAINLESS.HR.ANN.PICKLE.132.0000 -156.0000 SPECIFICATIONS: AMS 5643
Purchase Order No 41803	Part Number		Ordered Qty 43.32 LBS
Details			Invoice Qty 12.1667 FT
ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS			

Delivery No. 122455224	Mill/Source	Heat Number 	Mech Id 1	PCS	Width (IN)	Length (IN) 146.0000	Shipped Qty(LBS) 44.0000
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We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

DEC 06 2018

Date:

SUE KALOUS



36100 VICENZA (Italia) - Viale della scienza, 25 z.i.
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4
Telephon number : 0039 (0) 444968211

Cliente / Besteller/Purchaser/Cliet
VALBRUNA CANADA LTD
8724 HOLGATE CRESCENT
L5T 5Z1-MILTON, ONT L5T 5Z1-CA

Produttore: **ACCIAIERIE VALBRUNA S.P.A.**
Hersteller/Item/Usine productrice

Avviso di Spedizione: D-VI15004113
Lieferanzeige/Packing list/B.L.

Ordine nr: 406004804 STOCK
Bestell/Your order/Commande

Certificato nr: MEST642117/2015/
Prüfung/Test/Essai

Conferma ordine nr: EI14006107
Werks/Our Order/Ref nr.

Marchio di Fabbrica:
Zeichen des Lieferwerkes
Trade mark
Sigle de l'usine productrice



Punzone del Collaudatore:
Stempel des Werkssachverständigen
Inspector's stamp/Pointon de l'essayeur



Stato di fornitura: Hot rolled Descaled COND. A Hot rolled
Lieferzustand/Delivery state/Etat de livraison

Tipo di Elaborazione: E+AOD
Erschmelzungsart/Meilung process/Mode d'elaboration

Specifiche:
Anforderungen / Requirements / Exigences

VSI FLAT 2 630 A
AMS 5643 S17400 A
ASTM A564 2013 S17400 A

AISI 630
ASME SA564 2013 S17400 A (0)
ASTM F899 2012 630

AMS 2303 F.
ASTM A370 2014 .

(0) SECTION II PT.A 2013 EDITION

Qualità: T-630
Werkstoff/Grade/Nuance

Marca:
Markenbezeichnung
Brand/Nuance

V174

Tolleranza: ASTM A484-14a TABLE 5
Tolleranz/Allowance/Tolerance

Punzonatura: 630
Kennzeichnung/Marking/Marquage

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du produit	Dimensioni - In Abmessungen Dimension Dimension	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pieces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
0050	Flat	2,0000 x 0,5000	144 / 157	265084		699	419203750

TEST ALLO STATO DI FORNITURA

Test on delivery condition Prüfung auf lieferbarem produkt test a l'etat de fourniture Prueba sobre el material así como entregado

TEST	Provetta/Probstab Specimen/Eprouvette Larg./diam. Specs. Breite Diam. Dicke Width Diam. Thickness Larg. diam. épais mm	°F	Posiz. Saggio Probestage Location Emplacement 1)	Snervamento Streckgrenze Yield Stress Limite elastique	Snervamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction	Allungamento Bruchdehnung Elongation Allongement	Strizione Einschnürung Reduction of area Striction	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti 1 Anforderungen/Required values Valeurs demandées		min max		-	-	-	-	-	-	-
A										363

TEST	min	max
A Delta Ferrite		5,0
A Grain size for ASTM E112		1,0 %
A RATINGS FREQUENCY		6
A RATINGS SEVERITY		1,10
		0
		1,05
		0



Sample cond. H900

Tipo Trattamento Wärmebehandlung Heat Treatment Traitement Thermique	Temperatura Temperatur Temperature Temperatura	Raffreddamento Abkühlung Cooler Refrroidissement	Permanenza Haltezeit Permanence Maintien	Tipo Trattamento Wärmebehandlung Heat Treatment Traitement Thermique	Temperatura Temperatur Temperature Temperatura	Raffreddamento Abkühlung Cooler Refrroidissement	Permanenza Haltezeit Permanence Maintien	Tipo Trattamento Wärmebehandlung Heat Treatment Traitement Thermique	Temperatura Temperatur Temperature Temperatura	Raffreddamento Abkühlung Cooler Refrroidissement	Permanenza Haltezeit Permanence Maintien
Aging	900 °F	AIR	60								

TEST	Provetta/Probstab Specimen/Eprouvette Larg./diam. Specs. Breite Diam. Dicke Width Diam. Thickness Larg. diam. épais mm	°F	Posiz. Saggio Probestage Location Emplacement 1)	Snervamento Streckgrenze Yield Stress Limite elastique Rp 0,2% k.s.i.	Snervamento Streckgrenze Yield Stress Limite elastique	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.i.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Einschnürung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti 1 Anforderungen/Required values Valeurs demandées		min max		170	-	190	-	10	-	388
B	12,5	68	L	189		206	15	49		444
										430

Mechanical properties according to ASTM A370.
Delta Ferrite according to AMS 2315.

1) L=longitudinale/längs, T=transversale/quer, Q=Tangenziale/tangential



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Produttore: **ACCIAIERIE VALBRUNA S.P.A.**
Hersteller/fab/Usine productrice

Stato di fornitura: Hot rolled Descaled COND. A Hot rolled
Lieferzustand/Delivery state/Etat de livraison

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER

Avviso di Spedizione: D-VI15004113
Lieferanzeige/Packing list/B.L.

Ordine nr: 406004804 STOCK
Bestell/Your order/Commande

Tipo di Elaborazione: E+AOD
Erschmelzungsart/Melting process/Mode d'elaboration

Certificato nr: MEST642117/2015/
Prüfung/Test/Essai

Conferma ordine nr: EI14006107
Werks/Our Order/Ref nr.

Marchio di Fabbrica:
Zeichen des Lieferwerkes
Trade mark
Sigle de l'usine productrice

Punzone del Collaudatore:
Stempel des Werksachverständigen
Inspector's stamp/Pointon de l'essayeur



Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata / Heat Schmelze/Coulée	min - max 0,070	- 1,00	- 1,00	15,00 17,00	- 0,50	3,00 5,00	3,00 5,00	-	-	0,040	-	0,030	-	0,050	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	Ta %					
265084	0,037	0,45	0,49	15,06	0,20	3,28	4,61	0,044	0,026	0,001	0,031	0,0001					

Colata / Heat Schmelze/Coulée	min 0,150 max 0,350	5°C 0,350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nb%+Ta%	Cb(Nb)%															
265084	0,275	0,275															

Micro and macro etch test: satisfactory.
Produced without class I-II Ozone depleting substances.
Macroetch test per ASTM E340: acceptable.
Furnace calibrated according to AMS-H-6875;A;APRIL 2006
Reduction ratio = 50,2 : 1
Material solution annealed 1904 °F for 1 h,
air cooled to below 90 °F.
Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste
Die gestellten Anforderungen sind i.L. Anlage erfüllt
The material has been furnished in accordance with the requirements
Le matériel a été trouvé conforme aux exigences

Controllo antimescolanza: OK
Verwechslungsprüfung: spezialanalytisch durchgeführt
Antimixing testing performed: OK
Contrôle antimélange fait: r.a.s.

Controllo visivo e dimensionale: soddisfa le esigenze
Besichtigung und Ausmessung: ohne Beanstandung
Visual inspection and dimensional checks: satisfactory
Contrôle visuel et dimensions: satisfaisant

Melted and manufactured in Italy No welding or weld repair Material free from Mercury contamination
We declare that the finished product is checked for radioactive contamination through Portal System when it leaves the production plant.
The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, s., 4.3 by TUEV and LLOYD'S
Any act of tampering, modification, alteration, counterfeiting and/or falsification and/or any other action which modifies the contents of this test certificate shall constitute a violation of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.
The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the product be used for more severe, critical and/ or in any case different applications than those the material is generally intended for, any different and/or supplementary requirements shall be specifically demanded, at least, upon order of the Product by the Purchaser. Acciaierie Valbruna SpA shall not be responsible for any improper use of the Products.



SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 PH / TYPE 630 / S17400 SS BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5604 OR AMS 5643 OR ASTM A683 OR ASTM 564

PART NUMBER: M17-4- HHHH-B T.TTT X WW.WWWW | WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
COND THICK WIDTH | T.TTT SPECIFIES THE THICKNESS
WWW SPECIFIES THE WIDTH

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART 0.250" X 4.000" BAR MIN UTS = 150 KSI, MIN YTS = 100 KSI
1.000" X 2.500" BAR H900 CONDITION
0.500" X 3.250" BAR H1025 CONDITION
0.750" X 2.500" BAR A CONDITION

PART NUMBER
M17-4-B0.250X3.000
M17-4-H900-B1.000X2.500
M17-4-H1025-B0.500X3.250
M17-4-CONDA-B0.750X2.500

RELEASED
10 2017-10-31
Evan L. Tz
APPROVED

B	ADD MATERIAL CONDITION AND REFORMAT DRAWING	NO	17.09.14
A	NEW ISSUE	DS	02.04.18
REV.	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR.	DD		
APPROVED	WM		
DE APPR.	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M17-4-B			
REV. B			
SHEET 1 OF 1			
SCALE			
NTS			
COPYRIGHT © 2002 BY DART AEROSPACE LTD			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-B0.500x2.000

PO / BATCH NO.: P0041803/5136461

DATE: 18/12/11

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 0.500"

QUANTITY RECEIVED: 124

THICKNESS RECEIVED: 0.500"

QUANTITY INSPECTED: 124

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>N</u>	
CORRECT FINISH	<u>Y</u>	N	
CORROSION	Y	<u>N</u>	
CORRECT GRAIN DIRECTION	<u>Y</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>Y</u>	N	<u>AMS 5643</u>
CORRECT THICKNESS	<u>Y</u>	N	
PHOTO REQUIRED	Y	<u>N</u>	
CORRECT REF # TO LINK CERT	<u>Y</u>	N	<u>HT: 265084</u>
CORRECT MATERIAL IDENTIFICATION	<u>Y</u>	N	
CORRECT M# ON THE MATERIAL	<u>Y</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>N</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>N</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 61</u> 9-89	SIGNED OFF BY: _____
DATE: <u>18/12/11</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in